



Texas Department of Public Safety Division of Emergency Management



Debris Management Overview

The Need for a Debris Management Program



Hurricane

Tornado



The Need for a Debris Management Program



Floods



The Need for a Debris Management Program



Terrorism

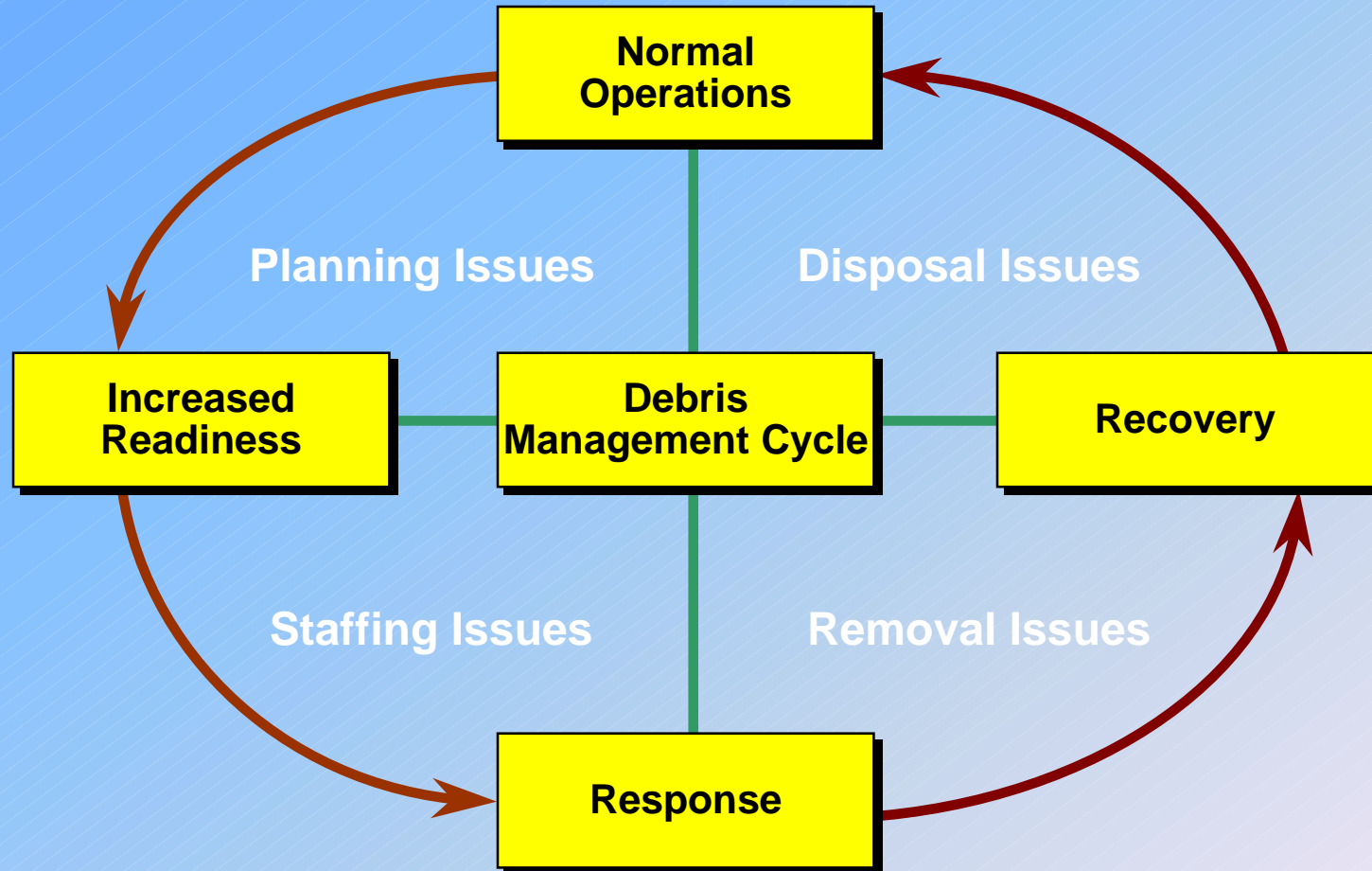
Fires



Debris Management Challenges

- **Storm Surge/Wave Action**
- **High Velocity Winds**
 - **Sediment/Sand**
 - **Trees**
 - **Personal Property**
 - **Inundation/High Water Flow**
 - **Landslide**
 - **Extensive Burn Areas**
 - **Burned Out Cars and Metal Objects**
 - **Charred Wood Waste**

The Debris Management Cycle



The Debris Management Staff *Organization*

- Elected officials
- Engineering staff
- Legal staff
- Public Information staff
- Contract Specialists
- Public Works staff
- Emergency Management staff
- Solid Waste Management staff
- Financial/Accounting staffs
- Local Contractors
- TXDOT/Army National Guard
- Mutual Aid Providers
- Environmental & Health staffs

The Debris Management Staff

Responsibilities

- Review & Update Plans
- Develop Procedures
- Develop Monitor Disposal Contracts
- Coordinate & Manage Resources
- Identify Potential Sites
- Develop Public Announcements
- Coordinate & Interact with State & Federal Agencies
- Implement Debris Management Plan

The Debris Management *Plan*

- Is an Annex to Community Emergency Management Plan
- Team Approach Recommended
- Defines Responsibilities for Managing the Operation
- Identifies Specific Offices Responsible for Operations
- Debris Management Actions Outlined
- Includes Mutual Aid Agreements
- Includes Plan for Management of all Resources
- Includes Necessary Appendices and SOPs
- Incorporates State & Federal Agency Involvement

Establishing Debris Management Sites *Evaluation*

- Team approach best
- Use public lands when possible
- Attorneys should review leases/contracts
- Consider ingress/egress
- Site size depends on volume, reduction methods
- Consider smoke, noise, dust & traffic
- Consider existing landfills carefully
- Consider appropriate recycling methods

Establishing Debris Management Sites

Forecasting Quantity

- Pre-identify areas subject to widespread devastation
- Forecast can be based on use of land, i.e. rural, urban, industrial, mixed
- Consider available forecasting models
- Consider population & density
- Nature of disaster, i.e. hurricane vs. tornado or fire
- Forecasting requires moderately complex mathematics
- Incorporate research results into Debris Annex/Plan

Estimating Debris *Quantity*

- Conduct initial damage assessment
- Identify any requirement for state assistance
- Divide community into sectors based on type, location, volume of debris
- Quantity calculations are complex

Contracting Procedures

- Establish a contracting office
- Identify and use appropriate contract type(s)
 - * Time & Material
 - * Lump Sum (specify work)
 - * Unit Price (paid by the yard/ton)
- Require strict contract monitoring
- Require strict unit price contract verification
- Ensure strict inspection and control of disposal methods

Debris Removal *Operations*

- Enact emergency management plan & debris annex
- Emergency road debris clearance a priority
- Clear public rights-of-way
- Keep public informed
- Establish priorities
- Address legal, environmental & health issues
- Document all costs
- Plan for special removal situations, i.e. private property, mobile home parks, navigation hazards

Operating Temporary Debris Storage Sites

General considerations:

- Continue to collect, store, reduce & dispose
- Document costs
- Close out temporary sites as able
- Monitor environmental issues
- Establish baseline data on temporary sites
 - * photographs, soil & water samples
- Monitor baseline data periodically
- Prepare for household hazardous waste materials
- Plan for and follow through with closeout procedures

Volume Reduction Methods



Burning

Chipping
&
Grinding



Recycling

- Monitor environmental issues

State & Federal Assistance Overview



- Stafford Act (PL93-288) primer
- Emergency vs. Disaster defined
- Presidential disaster declaration process
- Requesting State resources
- Federal Response Plan (FRP) overview
- State Emergency Support Function overview
- Eligibility criteria for debris activities in a disaster

Debris Management (G202)



- Developed by FEMA
- Conducted by the Division of Emergency Management
- A one-week, 36 hour course
- Combines interactive lecture with class & small group exercises

Target Audience

- Emergency Management Coordinators
- City/County Planners
- City/County Zoning Officers
- City/County Attorneys
- City/County Engineers
- City/County Financial Managers & Auditors
- Law Enforcement
- Public Information Staff
- Public Works Supervisors
- Solid Waste Managers
- Environmental/Health Agencies
- Army National Guard
- Texas Department of Transportation (TXDOT)
- US Army Corps of Engineers



Texas Department of Public Safety Division of Emergency Management



Debris Management Discussion / Q & A

DEM Web Site: <http://www.txdps.state.tx.us/dem/>